

## IGARSS'99

Special Session on JERS-1 Global Forest Mapping Project  
(oral presentation)

### **Preliminary Assessment of JERS-1 SAR to Discriminating Boreal Landscape Features for the Boreal Forest Mapping Project**

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This paper presents an overview of the JERS-1 North American Boreal Forest Mapping Project and a preliminary assessment of JERS-1 SAR imagery for application to discriminating features applicable to boreal landscape processes. The present focus of the JERS-1 North American Boreal Forest Mapping Project is the production of continental scale wintertime and summertime SAR mosaics of the North American boreal forest for distribution to the science community. As part of this effort, JERS-1 imagery has been collected over much of Alaska and Canada during the 1997-98 winter and 1998 summer seasons. To complete the mosaics, these data will be augmented with data collected during previous years. These data will be made available to the scientific community *via* CD ROM containing these and similar data sets compiled from companion studies of Asia and Europe.

Regional landscape classification with SAR is important for the baseline information it will provide about distribution of woodlands, positions of treeline, current forest biomass, distribution of wetlands, and extent of major rivercourses. As well as setting the stage for longer term change detection, comparisons across several years provides additional baseline information about short-term landscape change. Rapid changes, including those driven by fire, permafrost heat balance, flooding, and insect outbreaks can dominate boreal systems. We examine JERS-1 imagery covering selected sites in Alaska and Canada to assess quality and applicability to such relevant ecological and hydrological issues. The data are generally of high quality and illustrate many potential applications. A texture-based classification scheme is applied to selected regions to assess the applicability of these data for distinguishing distribution of such landcover types as wetland, tundra, woodland and forested landscapes.

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